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Ashgourd Cultivation: a Success Story

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ALL INDIA CO-ORDINATED RESEARCH PROJECT FOR DRYLAND AGRICULTURE

REGIONAL RESEARCH STATION FOR *KANDI* AREA

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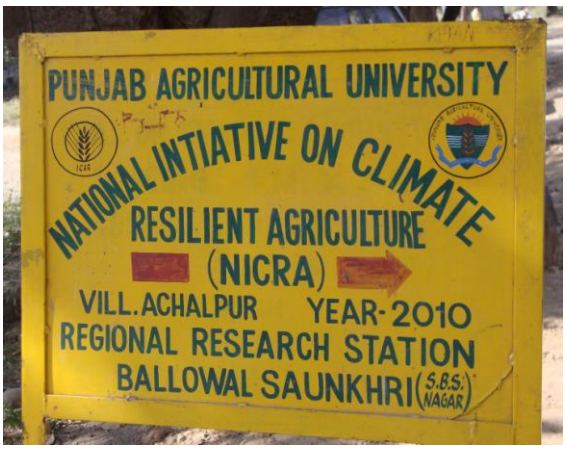
Kandi area of Punjab constitutes the 10 per cent of the total state area. The area is characterized by the erratic distribution of rainfall, small and scattered land holdings and severe soil erosion on sloppy lands, poor soil fertility and low moisture retention capacity. Maize is the main *kharif* season crop in kandi area and covers about 70 per cent of the total cropped area. The yield potential of the maize crop is very low which might be due to uncertainly of rains and lack of resources (good quality seed, implements etc.). Nowadays, increase in wild and stray animals' nuisance in the area has led to major setback for the cultivation of maize crop in the area. Crop failures have become a common problem in the area and famers start keeping some of their land barren.

Role of NICRA Project:



In 2010, All India Coordinated Research Project on Dryland Agriculture (AICRPDA) centre – Ballowal Saunkhri launched Central Research Institute for Dryland Agriculture (CRIDA) funded National Initiative on Climate Resilient Agriculture (NICRA) project at villages Achalpur and Nainwan Tehsil Garhshankar of district Hoshiarpur. The villages are located between 31^{o}14.55'N latitude and 76^{o}18.16'E longitude at an elevation of 493 meter above mean sea level. The domain area under NICRA falls in ACZ-1 of North Eastern Punjab. Under NICRA project, all the interventions developed by AICRPDA centre Ballowal Saunkhri have been transferred to farmer's field at village Nainwan and Achalpur. The main areas for technology transfer are rain water management, cropping system, integrated nutrient management, Energy management and alternate land use system. Awareness camps and training programmes are also being organized in the village for the welfare of the farming community of the area. Custom Hiring Centre (availability of latest agricultural implements) is also established in NICRA village to increase the use latest technology and to reduce the cost of

NICRA – Custom Hiring Centre

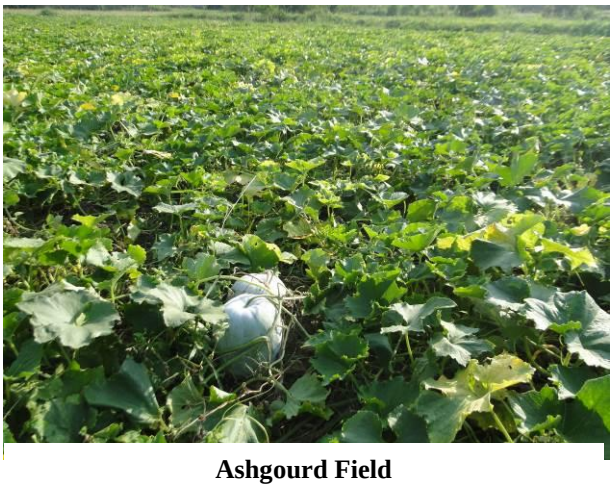
cultivation. Under rainwater harvesting, NICRA village pond is renovated to harvest the rain water during rainy season and to use it as supplementary irrigation for the agricultural crops.

Earlier a few farmers in the area were growing the ashgourd crop and there was wide variation in the fruit yield and rate of the produce. Hence, under NICRA project, ashgourd cultivation is promoted in the cluster approach and quality seed of ashgourd crop is provided to some farmers in the village. The whole crop is cultivated as per the recommended package of practice Punjab Agricultural University, Ludhiana.

Ashgourd crop

Ashgourd Cultivation:

Ashgourd (*Benincasa hispida*) is a popular vegetable crop. The fruits are cultivated mainly for culinary purpose. The fruits are covered by white, chalky wax, which deters microorganisms and helps impart an extraordinary longevity to the gourd. Ashgourd is a warm season crop and grow well under temperate conditions. The optimal temperature for the growth of ashgourd is in the range of 22-35^{o}C and very sensitive to frost and low temperature consitions. It tolerates a wide range of soil but prefers well drained sandy loam soil that is rich in organic matter. The optimum soil pH is 6.5–7.5.



Ashgourd Field

Agronomic practices

The ideal season for growing ashgourd is February-March and June-July. Under rainfed conditions sowing can be done after the first showers in May-June. The recommended manures and fertilizers are 10-15 tonnes of well rotten FYM / compost with 100 kg Nitrogen, 50 kg phosphorus and 50 kg

Ashgourd transplanting

Potassium per hectares. Apply full dose FYM, phosphorus and potassium and half dose of nitrogen in band placement during bed / pit preparation and rest half of the nitrogen during flowering. PAG-3 is the recommended variety by the University for Punjab conditions. Ashgourd hybrids of private registered companies are also available in the market. The recommended seed rate for ashgourd is 4-5 kg /ha. Sowing of 2-3 seed per hill is recommended at spacing of 3.0 m row to row and 0.8-0.9 m plant to plant. Seed soaking for 7-8 hours in cold water and seed treatment with 0.2% bavistin solution for 2 hours improves the germination per cent age. Avoid deeper seed sowing and excess moisture in the ashgourd field. Ashgourd nursery can be raised in the plastic bags and can be transplanted in the field after 15-20 days when seedlings are 10-15 cm in length. After two weeks removes the unhealthy plants and keep 2 plants per hill for better growth and yield of ashgourd crop.

Ashgourd seedlings

During the initial stages of growth, irrigate the crop at weekly interval, and after 3-4 days during flowering/fruiting. During rainy season, drainage is essential for plant survival and growth. Ashgourd is a cross pollinated crop. Insects especially bees play a vital role in pollination hence avoid the spray of insecticides during the flowering stage. The fruits are ready for picking after 120-150 days. The average yield of ashgourd crop is 35-45 t/ha.

Benefit Cost Ratio

In order to study the productivity and economics of ash gourd cultivation under rainfed conditions, numbers of demonstrations were conducted at village Achalpur and Nainwan. The ashgourd gave fruit yield of 27-42 t/ha with average 35.5 t/ha and net return ranges from Rs 58,677 – 95,377/- per ha (mean 65,625/-) and B:C ratio varied from 3.44 -4.75 (mean 4.10). The rate of the ashgourd is varying from Rs 5-10/- per kg every year. The damage of the wild and stray animals in ashgourd crop is minimum as compared to maize crop.

Ashgourd Fruit in field

Impact

Ashgourd has become the main cash crop for kharif season in the area. Farmers are using the hybrids seed, latest technologies and recommended package of practice for ashgourd cultivation. Farmers are fetching very good price in the market and area has become popular for the ashgourd cultivation. Nowadays, private people are taking produce even from the farmer's field. Hence the area under ashgourd crop is increasing rapidly in the adjoining areas and also improving the economic status of the farmers.

Ashgourd Fruit loading in trucks

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